Snow Survey measurements, water supply, and historical perspective

Today's measurements were taken at Phillips Station, along highway 50 as part of the manual snow course measurements that are taken statewide at 260 Sierra sites near the first of each month in winter and spring. Readings at that site (elevation 6,800') showed 86.1" snow depth. The more important figure is the water equivalence of that snow, which came out to 33.7". That is 136% of normal for this time of year at Phillips. While all the readings are not finished, we have numerous automated snow sensor measurements that provide a rough estimate of the total snowpack. They show the following:

| | | |
|---|---|---|
| North | 31" | 122% of normal |
| Central | 29" | 110% of normal |
| South | 28" | 130% of normal |

Statewide average 29" 118% of normal

The physical course measurements are the more accurate, and will likely come in slightly above those estimates, just like they did last month.

For comparison, course measurements of the past (statewide average)

| One month ago | One year ago | Last season's April 1, 2007 reading |
|---|---|---|
| 21"/ 131% | 17"/ 68% | 12.4"/ 40%* |

*Lowest since 1988, which had been 30% on April 1.

Historic min and max April 1 snowpack water content readings (approx. 60 year record)

| | |
|---|---|
| 1977 | 25% |
| 1969, 1983 | 225% |

Our current reservoir storage is running about 50% of capacity on average for the major reservoirs statewide. There is certainly plenty of space available for the coming snowmelt. In fact, we'd like to see a few more of these cold storms come through, but the next 9 days look dry. It would have taken a very impressive year to make up for last year's poor snowpack. It's estimated we'd have needed an 85% of normal runoff season to get our reservoirs back to normal. However, current projections are that we will have about a 77% of normal runoff year, doing a general statewide average. That's going to keep us from slipping further toward drought conditions, but will not fill things back up.

Current reservoir status for a few headliners:

| | |
|---|---|
| Folsom | 37% capacity, 66% of normal for this date |
| Oroville | 41% capacity, 57& of normal for this date |
| Shasta | 57% capacity, 77% of normal for this date |

Reservoir comparisons to some historically very dry years (the count your blessings figures)

Statewide Percent of Normal to Date Reservoir Storage (compared to today)

| | |
|---|---|
| 2008 | 77% |

vs.
1976 63%
1977 35%
1992 52%

So we are doing better than some of our driest years.

It's been an interesting year. The first half of the year was not impressive, with only 55% of normal runoff flowing down the rivers as of February 1. (In part due to the dry previous year). We also had lower than normal precipitation until January. And then, in January and even February, we had a lot of very cold storms. These have been really good snow producers, but we've not seen the runoff increases yet. The snow has yet to melt. And they also did not produce as much rainfall as you might expect, given the impressive snow totals. (This sometimes happens in La Nina; more tomorrow). But that dry initial third of the water year (which begins Oct. 1) won't be offset by a close-to-average spring snowpack, which is probably where we will end up. Since we are at 102% of April 1 average for snow water content already, were it to stop snowing, we'd at least end up with a decent, fairly average 1-year. On it's own merit, '07-'08 is doing fine. But classification projections for the Sacramento and San Joaquin River systems are still both "DRY."
(On a scale that includes wet, above normal, below normal, dry and critical).

The Department of Water Resources issued a press release today that combines today's snow measurements with a curtailment announcement for Delta pumping. Please read this important information:

http://www.water.ca.gov/news/newsreleases/2008/022808.snowsurvey.pdf.pdf

or
http://www.water.ca.gov/news/

and link from there.

Look for another newsletter on Friday, with an explanation of just why La Nina is not doing what it normally does in California. And why we want it to keep not doing it!

Special thanks to Steve Nemeth of DWR Snow Surveys; Maury Roos, DWR Chief Hydrologist; and Ted Thomas, DWR Public Affairs.
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